“Point Me to the MONEY”

Funding Opportunities in NRI Animal - Related Programs for FY 2008

National Program Leaders:

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www.csrees.usda.gov

FUNDING OPPORTUNITIES

Request for Applications (RFA)
→ CSREES website: www.csrees.usda.gov

(Click on “Funding Opportunities”)

OR

→National Research Initiative website
www.csrees.usda.gov/fo/funding.cfm

NRI programs will continue to have a narrowed focus

Animal-focused NRI Programs

- Animal Reproduction (Nov. 15, 2007)
- Animal Protection & Biosecurity- A*,B,C (Dec. 19, 2007)
- Animal Growth & Nutrient Utilization (June 5, 2008)
- Animal Genome – E* (Feb. 14, 2008)
- Animal Genome – A*, B, C, D* (June 5, 2008)

** Letter of intent required*

FY 2008 Budgets ($ millions)

- Animal Protection & Biosecurity (~$15.5 M)
- Animal Reproduction (~$ 4.5 M)
- Animal Growth & Nutrient Utilization (~$ 4.5 M)
- Animal Genomics (~$ 11M)
- USDA / NSF Interagency Microbial Genome Sequencing Program (~$15M)

ANIMAL PROTECTION & BIOSECURITY

(A) Animal Disease

Species-Specific diseases listed (changes in FY 2008)

→ Ruminants, Poultry, Equine: no change

→ Swine:

Removed Post-weaning E. coli diarrhea;
Added Porcine Circovirus 2

→ Aquaculture:

Removed Flavobacterium psychrophilum;
Added Viral Hemorrhagic Septicemia (VHS)
Great Lakes Strain

ANIMAL PROTECTION & BIOSECURITY

***(A) Animal Disease Non-Species-Specific Priorities* (Letter Of Intent required):**

- diseases introduced to livestock through wildlife interactions (no model species);
- immunology that is non-disease specific;
- immunology that works on disease justified to benefit multiple diseases;
- foreign animal diseases or emerging diseases

ANIMAL PROTECTION & BIOSECURITY

***Animal Disease* section (species and non-species specific areas):**

- pathogen biology
- mechanisms of host/pathogen interactions
- immunology
- etiology, control, epidemiology, and ecology

ANIMAL PROTECTION & BIOSECURITY

(B) Animal Well-Being

Research :

- Science-based criteria to measure well-being (pain, stress, behavioral needs)

Integrated:

- Impact of current & alternative production systems on well-being & food quality (housing, handling, transportation, harvest)

Animal Protection & Biosecurity

(C) Coordinated Agricultural Projects

FY 07: Solicited renewal application for existing Avian Influenza CAP

FY 08: invited a renewal application for existing PRRS CAP

- **Integrated (research, education, extension)**
- **Multi-disciplinary, multi-institutional, multi-state Coordinated Agricultural Projects:**

  PRRS (www.porkboard.org/prrs)

  Johne's Disease (www.jdip.org)

  Avian Influenza (www.agnr.umd.edu/aicap)

ANIMAL PROTECTION & BIOSECURITY
FY 2007

- # of Proposals Submitted = 134
- # of Proposals Awarded = 33
- 24 % Success (including strengthening)
- Average Award Size = $347,000
- Average Award Duration = 2.8 years

National Program Leaders:

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Animal Genome

Program Elements:

A. Translational Animal Genomics (LOI Required for integrated proposals)

B. Tools and Resources

C. Bioinformatics

D. Functional Genomics (LOI Required)

E. Whole Genome Enabled Animal Selection (LOI Required)

Contact: Peter Burfening (pburfening@csrees.usda.gov)
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Translational Animal Genomics

(Award size: maximum $450,000 research $550,000 integrated)

Research Priorities:

- Identification and mapping of genomic markers, including quantitative-trait loci (QTL), economic trait loci (ETL), causative mutations, and candidate genes;

- SNP-based cost-effective genotyping as it relates to whole genome enabled animal selection, genomic capabilities that enable parentage, (traceability) and genetic diversity; and

- Development and application of methods to modify the genome to aid in the understanding of gene function or expression

Translational Animal Genomics

(Award size: maximum $450,000 research $550,000 integrated)

Integrated Priority:

- Implementation of programs to manipulate and manage the animal's genome through the application of new genomic technology. These projects are aimed at developing the research needed to fill critical knowledge gaps and innovative extension programming necessary to enable stakeholders to manipulate and manage the animal's genome through the use of molecular markers, including quantitative-trait loci (QTL), economic trait loci (ETL), SNPs, and/or whole animal genotypes.

Tools and Resources

(Award size: maximum $1,000,000)

Research Priorities:

- Generation of comparative maps (contig maps and high density linkage maps) for use in comparative genomics; and

- Development of high density SNP maps where these do not already exist.

Bioinformatics

(Award size: maximum $1,000,000)

Research Priorities:

- Tools that integrate genome sequence, genome annotations and pedigree information with biological function and phenotypic information for a single species or across multiple species; and
- Animal bioinformatics tools to efficiently and effectively handle and interpret the genomic/genetic data being generated to accelerate the knowledge discovery process.
- Development of tools to integrate the use of genomic data (i.e. SNPs, haplotypes, and/or whole animal genotypes) into large-scale genetic evaluation programs and the use of genomic information to design precision mating systems.

Functional Genomics

(Award size: maximum $750,000)

Research Priorities:

- Increase the understanding of the biological role of genomic sequence, including coding and regulatory sequences, in agriculturally important animals and link these sequences to biological functions, product quality, or production efficiency.
- Increase the understanding of mechanisms that regulate agriculturally relevant genes in a systems biology framework.

Whole Genome Enabled Animal Selection

(Award size: maximum $5,000000)

Research Priority:

- Whole Genome Enabled Animal Selection Project will focus on the application of genome discoveries and technology applied to whole genome animal selection for U.S. agriculturally important animal improvement.

Animal Genomics
FY 2006

- # of Proposals Submitted = 72
- # of Proposals Awarded = 22
- 27% Success
- Average Award Size = $535,008
- Average Award Duration = 3.0 years

ANIMAL REPRODUCTION

(Award size: maximum $350,000)

1. Research Priorities*:*

- Gonadal function, including production, function, and preservation of gametes
- Hypothalamic-pituitary axis
- Embryonic & fetal development, including interaction with uterine environment

ANIMAL REPRODUCTION

2. Integrated Priority:

- Development, delivery, and implementation of approaches or management practices to regulate fertility through manipulation or …..

Contact: Mark Mirando

(mmirando@csrees.usda.gov)

ANIMAL REPRODUCTION
FY 2007

- # of Proposals Submitted = 53 (total = 69)
- # of Proposals Awarded = 12
- 22.6% Success
- Average Award Size = $332,750
- Average Award Duration = 2.9 years

Animal Growth & Nutrient Utilization

(Award size: maximum $350,000)

1. Research Priorities*:*

- Improving quality and efficiency of meat and milk production
- Mechanisms controlling nutrient intake, digestion, absorption, and availability to improve nutrient utilization and minimize endogenous nutrient waste product excretion

Contact: ***Mark Mirando (mmirando@csrees.usda.gov)***

Animal Growth & Nutrient Utilization

2. Integrated Priorities:

Application and translation of knowledge, discoveries, and technologies to:

- improve the quality of meat & milk production
- control nutrient intake, digestion, absorption, availability to improve nutrient utilization…..

Contact: Mark Mirando

(mmirando@csrees.usda.gov)

Animal Growth & Nutrient Utilization
FY 2006

- # of Proposals Submitted = 62
- # of Proposals Awarded = 12
- 19.3% Success
- Average Award Size = $319,980
- Average Award Duration = 2.9 years

Microbial Functional Genomics

(Award size: maximum $1 million)

Large scale gene function characterization for microbes with genomes sequenced (or nearly sequenced)

Program Priorities

characterization of mechanisms:

- of pathogenicity by microorganisms;
- of non-pathogenic interactions between microbes or between microbes and their hosts; or
- used by microorganisms to survive or respond to environmental changes

Contact: Ann Lichens-Park (*apark@csrees.usda.gov*)

USDA/NSF Microbial Genome Sequencing Program

Proposal Deadline – to be announced (see RFA)

- **High-throughput sequencing (viruses, bacteria, archaea, fungi, oomycetes, protists, and agriculturally important nematodes)**
- **Development and implementation of strategies, tools, and technologies to make currently available genome sequences more valuable to the user community**
- **USDA-CSREES website: www.csrees.usda.gov/fo/fundview.cfm?fonum=1108**

Contact: Ann Lichens-Park (apark@csrees.usda.gov)